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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,343	08/22/2003	R. Bruce DeMent	4001798.0002	8345

7590 06/22/2005

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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,343

Applicant(s)

DEMENT ET AL.

Examiner

Yewebdar T. Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 16-17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/26/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-15 and 18-20, drawn to a rotational casting apparatus, classified in class 118, subclass 320.
 - II. Claims 16-17, drawn to a method of equalizing the dwell-time of in a dispensing nozzle of a rotational casting apparatus, classified in class 427, subclass 425.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used to continuously differ the dwell-time of flowing liquid for coating a body or the coating apparatus can be used to apply liquid metal.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Milton Gerstein a provisional election was made with traverse to prosecute the invention of group I, claims 1-15 and 18-20.

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 16-19 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. Figures 1A, 1B, 2A and 2B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

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any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted art (see Applicants' specification pages 3-5 and Figs 1A, 1B, 2A and 2B) in view of Heaslip et al (US 6,425,505). Admitted art discloses a rotational casting apparatus including dispensing means comprising nozzle means having an interior flow

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passageway defining a straight longitudinal axis along the length (see Fig 1A), an inlet section in fluid communication with the mixing head, an intermediate section (16) and an outlet opening having elongated-like shape (slit opening 22, see Fig 1B). Admitted art lacks teaching the intermediate section comprising a plurality of different cross-sectional shapes along the longitudinal axis; each cross-sectional shape being defined in a plane transverse to the longitudinal axis; each cross-sectional shape defining a cross-sectional area substantially equal to the cross-sectional area of another cross-sectional shape of the plurality of different cross-sectional shapes. However, a casting apparatus having nozzle means comprising intermediate section having a plurality of different cross sectional shapes with equal cross-sectional area is known in the art; for instance – Heaslip et al discloses (see Fig 1, column 3, lines 16-21) a nozzle means (pour tube capable of pouring elastomer) having intermediate section comprising a plurality of different cross-sectional shape (sections 7a-7d) along the longitudinal axis; each cross-sectional shape being defined in a plane transverse to the longitudinal axis (2); and the cross sectional shape defining a cross sectional area substantially equal to the cross-sectional area of every other cross sectional shapes of the plurality of different cross-sectional shapes (cross-sectional areas being constant from section to section). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an intermediate section comprising a plurality of different cross-sectional shapes along the longitudinal axis; each cross-sectional shape being defined in a plane transverse to the longitudinal axis; each cross-sectional shape defining a cross-sectional area substantially equal to the cross-sectional area of another cross-

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sectional shape of the plurality of different cross-sectional shapes to maintain the mean velocity of the contained stream throughout the nozzle (pour tube) as taught by Heaslip et al.

Allowable Subject Matter

11. Claims 1-15 and 18-19 are allowed.

12. The following is an examiner's statement of reasons for allowance: Heaslip et al discloses as recited above (see Fig 1, column 3, lines 16-21) a nozzle means (pour tube capable of pouring elastomer) with branched interior flow passage having intermediate section comprising a plurality of different cross-sectional shape (sections 7a-7d) along the longitudinal axis; each cross-sectional shape being defined in a plane transverse to the longitudinal axis (2); and the cross sectional shape defining a cross sectional area substantially equal to the cross-sectional area of every other cross sectional shapes of the plurality of different cross-sectional shapes. However, Heaslip et al lacks teaching an outlet opening having a cross sectional area greater than the cross-sectional area of the cross sectional shape of the plurality of different cross-sectional shapes. It is known in the art that casting nozzles having an outlet opening converging into a narrow slot opening, such as taught by Hemmat (see column 1, lines 35-42; US 4,960,245) and applicants' admitted art (see Applicants' specification pages 3-5). Kwok (US 5,902,540) discloses a melt blowing apparatus comprising a plurality of orifices 12, 14 in a row having outlets with cross-sectional area greater than the passageways. However, these

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orifices are used in a melt blowing technique. There is no motivation to include these orifices in Heaslip et al's casting nozzle means. Prior art of record lacks teaching a casting nozzle having an outlet opening having a cross sectional area greater than the cross-sectional area of the cross sectional shape of the plurality of different cross-sectional shapes. Jaubertie (US 2002/0088881 A1) discloses (see Fig 1, Abstract and paragraph 79) a nozzle provided with a plurality of sections (11, 12, 14) having equal cross sectional areas and the outlet tube with divergent walls. However, in Jaubertie the nozzle is used to project a gaseous flow-containing solid. Adams (US 5,931,392) and R. J. Goodwin et al (US 3,419,220) disclose a nozzle having sections (see Fig 2 of each reference for a nozzle having a passageway provided with sections). Yet, in both references of Adams and Goodwin et al, the nozzles have decreasing cross-sectional area in a direction toward the outlet opening. Prior art does not teach or fairly suggest a dispensing nozzle comprising, among others, interior flow passageway having sections with a plurality of cross-sectional shapes, wherein each of the plurality of different sections having equal cross-sectional area and the outlet opening is provided with a cross-sectional area greater than the cross-sectional area of the plurality of different sectional shape, or a dispensing nozzle of a rotational casting apparatus comprising a plurality of different cross-sectional shapes along the longitudinal axis of an unbranched flow passageway with each of the cross-sectional shape having a cross-sectional area equal to the cross-sectional area of another cross sectional shape.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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